# CERTAMEN MELASTOMATACEIS VI.

John J. Wurdack

SANDEMANIA COGNIAUXII (Ule) Wurdack, comb. nov.

Leandra cogniauxii Ule, Notizbl. Bot. Gart. Berlin 6: 367. 1915.

Leandra purpurascens Cogn., Bot. Jahrb. 42: 139. 1908, non L. purpurascens (DC.) Cogn. (1886).

Sandemania lilacina Gleason, Kew Bull. 480. 1939.

An isotype (Weberbauer 4604, G-DC) has been examined, as well as original material (NY) of S. lilacina. Cogiaux did not observe the 4-merous flowers, Macairea-like stamens, and superior 2-celled ovary of the Weberbauer material. Both Sandeman's and Weberbauer's collections came from the same immediate area in Dept. San Martin, Peru.

TIBOUCHINA CLAVATA (Pers.) Wurdack, comb. nov.

Melastoma clavata Pers., Syn. Plant. 1: 476. 1805.

Melastoma argentea Desr., Lam. Encycl. Meth. Bot. 4: 45. 1796, non Sw. (1788).

Melastoma holosericea Sw., Obs. Bot. 176. 1791, non M. holosericea L. (1753).

Persoon renamed Melastoma argentea Desr. because of the earlier M. argentea Sw. Melastoma holosericea L., from both Linnaeus' and Plukenet's descriptions, obviously is not the same as the Tibouchina species photographed in the Linnaean Herbarium (Savage Catalogue 559.5); this specimen was No. 7 of the Arduino List sent to Linnaeus in 1761 and determined by him in 1763. Apparently a duplicate of this collection, along with a Banks and Solander specimen, formed the basis of Swartz's description; also Swartz, from his reference to the Systema Vegetabilium (1784), was only amplifying, albeit incorrectly, the Linnaean and Murrayan descriptions of Melastoma holosericea. Perhaps a specimen of Miconia holosericea (L.) DC. may exist among the Swedish Linnaean collections. Even though DeCandolle misidentified Melastoma holosericea L., the transfer to Miconia should be credited to him and not, as indicated by Cogniaux (DC. Mon. Phan. 7: 732. 1891), to Triana. For typification, the Commerson holotype of T. clavata is much more adequate than the Arduino scraps.

LEANDRA CUATRECASASII Wurdack, sp. nov.

L. nervosae Cogn. affinis, sed cum floribus et caulibus hypanthiisque dense setulosis vel setosis.

Frutex; rami teretes cum petiolis inflorescentiis hypanthiisque dense stellato-furfuracei et dense fusco-setosi vel setulosi. Petioli 4-15 mm. longi; lamina 4-11 X 1.5-3 cm. subcoriacea lanceolata vel anguste oblongo-ovata apice anguste acuta basi rotundata ciliolato-serrulata 5-nervata, supra primum sparse strigulosa (praecipue marginem versus) demum glabrata, subtus in nervis primariis secundariisque modice stellulato-furfuracea et modice vel dense setosa vel setulosa superficie glabra vel sparse inconspicueque stellulato-furfuracea. Panicula 4-9 cm. longa oblonga; flores 5-meri plerumque breviter (2-5 mm.) pedicellati; bracteolae inconspicuae ca. 1 mm. longae oblongae vel lineares apice setiferae. Hypanthium 3 mm. longum dense stellato-furfuraceum et dense vel densiuscule setosum vel setulosum; calycis lobi interiores 0.6-0.8 mm. longi oblongo-ovati hebeti-acuti basim versus stellulato-furfuracei, dentibus exterioribus 0.3-0.6 mm. eminentibus oblongis carnulosis extus setuliferis. Petala alba 4.5-6 X 1.5-2 mm. oblongo-ovata apice vix acuminata utrinque papilloso-puberula. Filamenta 2-2.3 mm. longa modice glanduloso-puberula; antherae 1.7-2 mm. longae oblongae, connectivo non prolongato basi dorsaliter vix elevato. Stylus 6 mm. longus sparse vel modice glanduloso-puberulus; stigma truncatum; ovarium 3-loculare ad medium adnatum apice pauci-setulosum et sparse glanduloso-puberulum; semina laevia 0.3-0.4 mm. longa.

L. cuatrecasasii ssp. cuatrecasasii

Ramorum hypanthiorumque pili densissimi 3-4 mm. longi.

Type Collection: J. Cuatrecasas 8454 (holotype US 1797083), collected at Gabinete, eastern cordillera, Dept. Huila-Com. Caquetá frontier, Colombia, alt. 2300-2450 m., Mar. 22, 1940. "Frutex ramoso; cáliz purpúreo; corola blanca."

Paratypes: Com. Caquetá: Río Hacha below Gabinete, alt. 2100-2250 m., Cuatrecasas 8536 (US); between Garzón and Florencia, alt. 2000 m., H. L. Mason 13962 (US).

L. cuatrecasasii ssp. occidentalis Wurdack, ssp. nov.

Ramorum hypanthiorumque pili densi 1-1.5 mm. longi.

Type Collection: J. A. Molina & F. A. Barkley 18A314 (holotype US 2102927), collected in subpáramo east of Sonsón, Dept. Antioquia, Colombia, alt. 2800 m., Oct. 30, 1948.

Paratypes: Colombia: Río San Rafael below Cerro Tatama, Dept. Caldas, alt. 2500-2800 m., F. W. Pennell 10397 (US); Mozoco, Moras Valley, Dept. Cauca, alt. 2600 m., H. Pittier 1325 (US).

L. nervosa, ranging from Colombia to Peru at elevations of 1500-2000 m., shares the feature of glandular-puberulous filaments and style with L. cuatrecasasii, but completely lacks hypanthial setae and has petals only 3 mm. long. Isotypes (US) of L. lehmannii Cogn. resemble vegetatively L. cuatrecasasii ssp. occidentalis, but show glabrous filaments and style as well as petals only 2.5-3 mm. long; probably L. lehmannii should be allied (and perhaps united) with the ill-defined species-complex L. subseriata (Naud.) Cogn.-L. melanodesma (Naud.) Cogn.

MICONIA PICTA (Vahl) Wurdack, comb. nov.

Melastoma picta Vahl, Eclog. 3: 15. 1807.

The name Miconia cinnamomifolia (DC.) Naud. is properly applied to the southeast Brazilian species treated by Cogniaux as M. candolleana (DC.) Tr. (Trans. Linn. Soc. Bot. 28: 117. 1871), a later homonym of M. candolleana Naud. (Ann. Sci. Nat. Ser. 3, 16: 244. 1851). M. cinnamomifolia (Jacq.) Tr. (Trans. Linn. Soc. Bot. 28: 101. 1871) is a later homonym of M. cinnamomifolia (DC.) Naud. (Ann. Sci. Nat. Ser. 3, 16: 168. 1851). Were it not for the availability of Vahl's epithet, M. candolleana Naud. would be the proper name for this West Indian species.

MICONIA FERREYRAE Wurdack, sp. nov.

Sect. Amblyarrhena. Ex descr. M. retusae Pilger affinis, sed cum foliis longioribus subtus in venis inconspicue cum pilis stellatis albidis obsitis.

Rami primum vix compressi demum teretes cum petiolis foliorum venis primariis secundariisque subtus inflorescentiisque sparse cum pilis albidis gracili-stellatis appressis obsiti demum glabrati. Folia sessilia; lamina 15-25 X 2-3.5 cm. lanceolata apice graditer anguste longeque acuminata basi ad 1 cm. cordato-amplexicaulis trinervata venis secundariis 1-2 mm. inter se distantibus nervis tertiariis sublaxe reticulatis, supra et subtus primum cum pilis albidis stellatis modice obsita demum nervis subtus exceptis glabrata, subcoriacea integra. Panicula 10-12 cm. longa; flores sessiles 4-meri; bracteolae 1.5 mm. longae ovatae persistentes ad hypanthii basim insertae. Hypanthium 3 mm. longum glabrum; calycis lobi 1 mm. alti triangulares acuti, dentibus exterioribus apiculatis dentes interiores aequantibus. Petala 3 X 2-2.2 mm. obovata asymmetrice rotundata et retusa laevia. Filamenta 2.5-3 mm. longa glabra; antherae 2 mm. longae anguste oblongae apice uniporosae, connectivo basi non producto cum filamento simpliciter articulato. Stylus 6 mm. longus; stigma truncatum non expansum; ovarium 4-loculare 1/3 liberum, apice truncatum et sparse cum glandulis

sessilibus rubris obsitum.

Type Collection: Ramon Ferreyra 4297 (holotype US 2029041), collected "abajo de Divisoria, cerca a Sinchono, Prov. Coronel Portillo", Dept. Loreto, Peru, alt. 1300-1400 m., July 21,1948. "Arbusto 1.5-2 m. Flores lilas hasta rosadas".

Paratypes: Dept. San Martin, Peru: between Sinchono and Boquerón, Ferreyra 1132 (US); near Boquerón, H. A. Allard 22073 (US).

M. retusa has leaves only 5.5-7 cm. long. Pilger's and Macbride's placement of M. retusa in Sect. Amblyarrhena certainly seems preferable to Gleason's disposition (as M. macbridei Gl.) in Sect. Chaenopleura. The two relatives, along with the next-described species, are generally related with the 4-merous species of Sect. Amblyarrhena,with anthers resembling those of the Cuban M. androsaemifolia Griseb.

MICONIA CONDYLATA Wurdack, sp. nov.

M. ferreyrae Wurdack affinis, sed cum nodis stipuliformate incrassatis et foliis petiolatis.

Pubes ut in M. ferreyrae. Rami teretes ad nodos notabile incrassati annulo corneo 1-1.5 cm. diam. Petioli 1-3 cm. longi; lamina 11-22 X 2.5-5 cm. oblongo-lanceolata apice sensim longe angusteque acuminata basi obtusa vel vix rotundata coriacea integra trinervata nervis duobus lateralibus inframarginalibus nervis secundariis 2-5 mm. inter se distantibus nervis tertiariis laxe reticulatis. Panicula 9-18 cm. longa ampla densiuscule stellato-furfuracea. Flores 4-meri glabri sessiles; bracteolae 0.7-1.5 mm. longae ovatae caducae. Hypanthium 3 mm. longum; calycis lobi 0.5 mm. alti late triangulares, dentibus exterioribus apiculatis dentes interiores aequantibus vel vix (0.2 mm.) superantibus. Petala 2-2.5 X 1.5 mm. oblongo-obovata apice rotundata et retusa. Filamenta 2-2.5 mm. longa; antherae 2-2.3 mm. longae anguste oblongae apice uniporosae, connectivo basi non producto cum filamento simpliciter articulato. Stylus 4.5 mm. longus; stigma truncatum non expansum; ovarium 4-loculare 1/3 liberum apice truncatum glabrum.

Type Collection: Ramon Ferreyra 1105 (holotype US 2057975), collected between Sinchono and Boquerón, Dept. San Martin, Peru, Aug. 15, 1946. "Shrub 1.5-2 m. high; flowers rose; fruit red".

Paratype: Rosa Scolnik 1125 (US), collected between Kms. 220 and 225, road between Huánuco and Pucallpa, Dept. Loreto, Peru.

While the vegetative distinctions between M. ferreyrae and M. condylata are most striking, there are only minor floral differences, with M. ferreyrae having slightly longer calyx lobes. The extreme cupular-tumid nodal development in M. ferreyrae serves as an ample differentiation from the other 4-merous species of Miconia Sect. Amblyarrhena.

MICONIA MICAYANA Wurdack, nom. nov.

Amphitoma flavescens Gleason, Bull. Torrey Club 52: 378. 1925.

The genus Amphitoma differs in no way from several species of Miconia Sect. Cremanium. The closest relative of M. micayana is M. compressicaulis Wurdack, from the same area in Colombia, and M. gonioclada Tr. of Ecuador, both with glabrous foliage and hypanthia and non-emergent external calyx teeth as well as relatively broader leaf blades. One paratype of Amphitoma flavescens, Killip 7930 (US), probably represents an undescribed relative of these three species; the lower leaf surface has stipitate-stellate hairs, the upper surface lacks the numerous subepidermal yellow papillae characteristic of both its Colombian relatives, and the external calyx teeth are non-emergent as in M. compressicaulis. The material is somewhat imperfect for adequate description.

MICONIA HAUGHTII (Gleason) Wurdack, comb. nov.

Pachydesmia haughtii Gleason, Phytologia 2: 430. 1948.

The relationship of M. haughtii with M. superposita Wurdack is intimate. In M. haughtii, cauline swellings below the petiole bases are strongly developed, the leaf blades are larger and basally rounded, and the basal strongly irregularly lobed connective appendages are 1.5-1.7 mm. long in total; M. superposita lacks cauline scutums, the relatively narrower smaller leaf blades are broadly acute at the base, and the lobed basal connective appendages are only about 0.8 mm. long. M. turgida Gleason resembles M. haughtii in the cauline scutal development, but otherwise is more distantly related. M. haughtii represents a slight additional development of anther sterilization over M. superposita.

CLIDEMIA CHOCOENSIS Wurdack, sp. nov.

Sect. Staphidium. C. conglomeratae DC. affinis, sed cum foliis integris, ramulorum pilis primum albidis non vel vix ciliatis, calycis lobis interioribus intus dense stellulato-puberulis.

Frutex; ramuli novelli cum petiolis hypanthioque dense cum pilis flaccidis albidis 1-2 mm. longis laxe erectis et densissime cum pilis brevibus obtusis obsiti. Folia membranacea vix (ad 1 cm.) petiolata in eodem jugo disparilia; lamina 12-18 X 5.5-8.5 cm. vel 5.5-9 X 2-4.5 cm. elliptico-obovata apice breviter (0.5-1.5 cm.) acuteque acuminata basi late acuta, 5-nervata cum nervis exterioribus marginalibus dilutis nervis secundariis distinctis ca. 4-8 mm. inter se distantibus tertiariis laxe rectangulato-reticulatis, marginibus integris vel indistincte distanterque undulato-serrulatis, supra primum sparse albido-lanosa et modice stellulato-furfuracea demum

glabrata, subtus in nervis primariis modice albido-lanulosa et dense stellulato-furfuracea in nervulis modice stellulato-furfuracea alioqui glabra. Flores 5-meri sessiles in foliorum axillis glomerati cum bracteis parvis occultis. Hypanthium 3 mm. longum; calycis lobi interiores 1 mm. alti ovati apice rotundati dense stellulato-furfuracei, lobis exterioribus 0.5-1 mm. eminentibus acutis dense flaccido-setulosis. Petala 1.5 X 1 mm. ovato-oblonga obtusa. Antherae 1 mm. longae oblongae basi vix prolongatae dorsaliter cum dente acuto glanduloso 0.3 mm. longo obsitae. Stylus 3 mm. longus; stigma truncatum; ovarium 5-loculare ad medium inferum apice truncatum et densiuscule cum glandulis sessilibus obsitum.

Type Collection: E. P. Killip & Hernando Garcia 33520 (holotype US 1770455), collected in dense forest along Quebrada Jellita, Bahia Solano, Int. El Choco, Colombia, alt. 50-100 m., Feb. 22, 1939.

The Guianan C. conglomerata has notably ciliolate brown branchlet pubescence, crenate-serrate leaf margins, interior calyx lobes glabrous except for the ciliate margins, non-protruding external calyx teeth, and a densely setose ovary apex. In C. conglomerata, the glabrous stamen connective has a very short truncate dorso-basal appendage. The glandular stamen connectives of C. chocoensis are like those of C. densiflora (Standl.) Gleas., a Central American species with different pubescence and 4-merous flowers.

CLIDEMIA HAUGHTII Wurdack, sp. nov.

Sect. Staphidium. C. reitzianae Cogn. et Gleas. ex Gleas. in aspectu affinis, sed cum foliis supra glabris et floribus maioribus cum toro glabro.

Rami teretes cum petiolis densissime furfuraceo-tomentosi et sparse rubro-setosi. Folia membranacea disparilia 1-3 cm. vel 0.3-0.7 cm. petiolata; lamina 11-17 X 5-8.5 cm. vel 1.5-3 X 1-2.5 cm., maiora elliptica apice breviter (ad 0.7 cm.) lateque hebeti-acuminata basi rotundata breviter (ad 5 mm.) 5-plinervata, minora orbiculari-ovata apice late acuta vel obtusa basi vix cordata, prominenter ciliata et vix denticulata nervis tertiariis laxe reticulatis, supra glabra, subtus in nervis primariis dense furfuraceo-tomentosa et sparse gracili-setosa in superficie laxe gracili-setosa. Panicula furfuracea subsessilis pauciflora ca. 1.5 cm. longa. Flores 5-meri 3-5 mm.-pedicellati; bracteolae inconspicuae 0.2-0.3 mm. longae ovatae apice setiferae. Hypanthium 4 mm. longum oblongum sparse stellulato-furfuraceum, modice rubro-setosum, et dense resino-glandulosum; calycis lobi 0.5 mm. alti rotundati, dentibus exterioribus brevissimis tuberculi-formibus setiferis; torus glaber vel inconspicue furfuraceus. Petala 2 X 1.8 mm. obovata oblique truncata granulosa.

Filamenta 2 mm. longa; antherae 3 mm. longae subulatae, connectivo basi 0.2 mm. prolongato et dorsaliter cum appendice truncata 0.5 mm. longa. Stylus 9 mm. longus; stigma truncatum; ovarium 5-loculare omnino inferum apice resino-glandulosum.

Type Collection: Oscar Haught 2193 (holotype US 1742423), collected at the headwaters of Dorada Creek 12 km. south of Raizudo, vicinity of Puerto Berrio between Carare and Magdalena rivers, Dept. Santander, Colombia, alt. 300 m., May 6, 1937. "Much-branched shrub 1 m. high; flowers and immature fruit red. Rich soil along streams".

The Costa Rican relative has the same vegetative aspect and the same pubescence types as C. haughtii, but the leaves are constantly sparsely to moderately lax-setose above, the hypanthium only 3 mm. long, the anthers (fide Gleason) only 1.9 mm. long, and the torus densely pubescent. Haught 2193 was distributed as C. dentata D. Don, a species with prominent external calyx teeth. From the type photograph (Macbride 17308), C. purpurea D. Don, of Ecuador, must be a close relative of C. reitziana; no recent collections referable to C. purpurea have been seen.

CLIDEMIA GARCIA-BARRIGAE Wurdack, sp. nov.

C. pittieri Gleas. distante affinis sed cum foliis parvioribus pubescentibus. Rami teretes cum petiolis foliis inflorescentiisque modice setosi cum pilis nigrescentibus 1.5-3 mm. longis et sparse cum glandulis rubris sessilibus obsiti. Folia subcoriacea disparilia subsessilia ad 3 mm. petiolata; lamina 6-8 X 2-3.5 cm. vel 2-3 X 1.5-2.5 cm., maiora oblonga apice abrupte angusteque per 1-1.5 cm. acuminata basi rotundata 5-nervata, minora late ovata breviter (2 mm.) hebeti-apiculata 3- vel sub 5-nervata, ciliata integra nervis secundariis tertiariisque non evolutis. Inflorescentia e basi simpliciter trifurcata ramis subequalibus 2-4 cm. longis. Flores 5-meri in ramis racemosi 1-2 mm. pedicellati; alabastra cum bracteolis duabus caducis 2.5-3 X 2-2.5 mm. ellipticis vel suborbicularibus extus sparse strigosis prominenter ciliatis 0.5 mm. infra hypanthium insertis involucrata. Hypanthium 1-1.2 mm. longum sparse setosum vel glabrum cum glandulis rubris sessilibus sparse obsitum; calycis lobi 0.8-1 mm. longi et lati ovati apice late acuti vel rotundati, dentibus exterioribus apice breviter setiferis quam dentibus interioribus vix brevioribus. Petala 1.5-2 X 1.5-2 mm. orbicularia. Filamenta 1.5 mm. longa, basi 0.7 mm. lata; antherae 0.5 X 0.5 mm. apice truncatae, connectivo basi vix prolongato dorsaliter et ventraliter tuberculato. Stylus 2 mm. longus; stigma truncatum; ovarium 3-loculare omnino inferum apice glabrum et 10-costatum.

Type Collection: H. Garcia-Barriga 13116 (holotype US 1987150), collected between Altaquer and Ricaurte along the

road to Barbacoas, Dept. Nariño, Colombia, alt. 1140-1300 m., Aug. 3-5, 1948. "Arbusto 2 m.; flores blancas".

The postulated glabrous Panamanian relative has in common with C. garcia-barrigae foliar dimorphism and floral details, with both species having stamens suggestive of Miconia Sect. Cremanium. In floral details, both are suggestive of the genus Killipia but are radically different vegetatively.

CLIDEMIA ALLARDII Wurdack, sp. nov.

C. tococoideae (DC.) Gleas. et C. crenulatae Gleas. affinis, sed cum inflorescentia ampliore, calycis dentibus exterioribus hypanthio cauleque dense cum piliis brevibus ramulosis obsitis.

Frutex 1.5-3 m.; ramuli cum vesicis petiolis inflorescentiis calycis dentibus exterioribus hypanthiisque dense setosi (pilis gracilibus 2-6 mm. longis p. p. glanduliferis) et dense cum pilis plumosis ad 0.5 mm. altis obsiti. Vesicae in paribus infra nodos ad petiolorum basim insertae 0.7-1 cm. longae ellipsoideae. Folia isomorphica vel vix anisomorphica; petioli infra inflorescentiam 3.5-7.5 cm. longi, ad inflorescentiam multo breviores; laminae maturae membranaceae plerumque 9-20 X 7-15 cm. late ovatae apice breviter (1-2 cm.) abrupte angusteque acuminatae basi leviter (ad 1 cm.) cordatae ciliatae et insigniter crenulatae, supra sparse vel modice setosae pilis laxis gracilibus p. p. glanduliferis et in nervis primariis modice cum pilis plumosis obsitae, subtus in nervis primariis dense gracili-setosae et modice cum pilis plumosis brevibus obsitae in nervulis sparse setulosae, supra et subtus sparse resinoso-glandulosae, 5-7-nervatae nervis supra planis vel leviter impressis subtus creberrime elevatis nervis tertiariis laxe irregulariterque reticulatis. Inflorescentia ramulosa 2-4 cm. longa (in fructu ad 6 cm.); flores 4-meri 1-? mm.-pedicellati; bracteolae 0.5-1 mm. longae ovatae stellato-furfuraceae et setiferae paulo infra hypanthium insertae. Hypanthium 4-4.5 X 1-1.3 mm. oblongum; calycis lobi interiores 0.5-1 mm. longi suborbiculares vel oblongi apice rotundati extus modice stellato-furfuracei intus sparse stellato-furfuracei vel glabri, dentibus exterioribus 1.5-? mm. longis subulatis apice setiferis. Petala 2 X 1.5 mm. obovato-oblonga apice rotundata vel vix retusa glabra. Filamenta 2.5 mm. longa; antherae 2.5-2.8 mm. longae subulatae, connectivo simpliciter articulato. Stylus 6 mm. longus; stigma vix expansum truncatum; ovarium 4-loculare omnino inferum apice sparse glanduloso-setulosum.

Type Collection: H. A. Allard 21222 (holotype US 1999969), collected near cliffs at top of wooded ridge east of Tingo Maria, Dept. San Martin, Peru, elev. 850 m., Oct. 30-Feb. 19, 1950.

Paratypes: Peru, San Martin: east of Tingo Maria, Allard 21370 (US), Allard 22540 (US). Colombia: Com. Caquetá: Florencia, Cerro de La Sardina, alt. 500 m., J. Cuatrecasas 8914 (US); Tres Esquinas, Río Caquetá, alt. 200 m., M. Koie 5052 (US). Com. Putumayo: Puerto Ospina, Río Putumayo, alt. 230 m., Cuatrecasas 10569 (US); Mocoa, alt. 570-680 m., Cuatrecasas 11317 (US).

These three species may be separated as follows:

Inflorescence 2-4 cm. long, many-flowered; hypanthium densely covered with both simple setae and short plumose hairs. C. allardii

Inflorescence 2 cm. long or less, few-flowered; hypanthium lacking plumose hairs.

Lower leaf surface densely resinous-glandular, the veinlets finely and evenly reticulate; hypanthium without setae in lower 1/3. C. tococoidea

Lower leaf surface sparsely resinous-glandular, the veinlets laxly and irregularly reticulate; hypanthium basally densely setose. C. crenulata

The range of C. crenulata is the lowlands of El Valle and the Choco in Colombia and lowland Costa Rica (and probably lowland Panama); related middle-elevation collections from Costa Rica and Honduras are all C. elata Pittier. Maieta tococoidea var. Watsonii Cogn. is synonymous with C. crenulata. C. tococoidea is restricted to the upper Río Negro and upper Orinoco drainages; the origin of the holotype (P) is doubtful, perhaps from Araracoara (Martius) or the upper Orinoco (Bonpland), but the Macbride photograph (36315) leaves no doubt as to the correctness of the present interpretation. I have not seen Poeppig 1794, from Maynas, Peru, cited by Cogniaux, but it probably is referable to C. allardii. The distinctions between C. tococoidea and C. crenulata are mostly quantitative, but on the basis of present collections permit absolute separation of the two species; perhaps future collections will show the desirability of treating the two taxa as subspecies.

The three Clidemia species treated by Gleason (Phytologia 3: 350-351) are closely related to the above complex. C. testiculata (Tr.) Gleas. sensu Gleason would be strictly limited to the Villavicencio area; however Cuatrecasas 9042 (US) from Sucre in Caquetá agrees in pubescence and inflorescence details with Villavicencio collections except for the cymes branching from the base. Another evaluation of this complex is necessary, desirably with field observations on petiole, formicaria, and inflorescence variability. C. allardii is distinguishable from both C. testiculata and C. elata by the long cauline hairs averaging 4-5 mm. long (rather than about 2 mm.) and the dense coating of plumose hairs on the stem and hypanthium. C. ciliata D. Don sensu stricto shares with C. allardii the character of

plumose hairs, but has sessile leaves, sparse cauline setae restricted to the young stems, and non-setose hypanthia with setae restricted to the calyx teeth. C. pilosa D. Don was synonymized with C. ciliata by Gleason; in this ecad (Killip & Smith 22706 agrees very well with the type photograph, Macbride 17227), the petioles are no longer than 2.5 cm., there are no formicaria, and the hypanthia are very sparsely setose. Additional material from Peru may indicate the necessity of reinstating C. pilosa in some rank, probably as a variety tending slightly toward C. allardii from C. ciliata.

CLIDEMIA OMBROPHILA Gleason

Hitherto recorded only from the original Darien (Panama) collection, this species has also been collected in Prov. Carthago, Costa Rica: vicinity of Orosi, Standley 39804 (US); El Muñeco on the Río Navarro, alt. 1400-1500 m., Standley & Torres 51052 (US), 51077 (US). One feature not noted in the original description is the tendency to dimorphism in leaf-pair size. From buds and a single open flower on the Costa Rican material, some additional floral details can be supplied: petals 2 X 1.7 mm., oblong-obovate, rounded-truncate; anthers 1 mm. long, oblong, truncate and minutely one-pored at the apex, the connective simple; ovary 4-celled, completely inferior, the apex slightly 8-ribbed.

CLIDEMIA BARKLEYI Wurdack, sp. nov.

C. gracili Pitt. affinis, sed cum foliis parvioribus basi distincte cordatis, laminis maioribus distincte 7-nervatis.

Frutex cum ramulis petiolis foliorum nervis primariis subtus modice arachnoideo-furfuraceis. Folia membranacea disparilia 2-4 mm. petiolata; lamina 6-9 X 3-5.5 cm. vel 0.8-2.5 X 0.7-2 cm. ovata apice breviter acuteque acuminata basi 3-7 mm. -cordata margine integra et remote mucronulata distincte 7-nervata (maior) vel 5-nervata (minor) nervis tertiariis laxe reticulatis sed planis, supra et subtus primum arachnoideo-furfuracea demum nervis principalibus subtus exceptis glabrata. Inflorescentia ad 6 cm. longa pauciflora; alabastra solum cognita sed modo C. gracilis 4-mera cum hypanthio dense stellato-furfuraceo et petalis extus dense papillosis.

Type Collection: William Johnson & Fred A. Barkley 18C490 (holotype US 2102596), collected "in selvas húmedas y densas entre Villa Arteaga y el Río Mutatá", Dept. Antioquia, Colombia, Mar. 20, 1948.

The larger of each leaf-pair in C. gracilis is oblong and rounded but not cordate at the base; the lower surface tertiary nerves are densely elevated-reticulate; and there are 3 (5, including the fainter marginals) primary nerves. To C. gracilis, Gleason referred Killip & Garcia 33613, from Int.

Choco, Colombia; while this Colombian collection does not show ancipital branches, it otherwise seems compatible with Panamanian material. In the treatment of the Panamanian species of Clidemia (Ann. Mo. Bot. Gard. 45: 247-256. 1958), C. gracilis should be keyed to near C. purpureo-violacea Cogn. and C. ombrophila Gleas., since the flowers are actually 4-merous; it is easily superficially separated from both its Panamanian relatives by the very short petioles and extreme foliar dimorphism.

CLIDEMIA SEMIJUGA (Gleas.) Wurdack, comb. nov.

Ossaea semijuga Gleason, Brittonia 2: 325. 1937.

Flowers in the Washington isotype verify the generic placement here proposed: hypanthium 2.5 mm. long; interior calyx teeth 0.8 mm. high, remote, slightly (0.2 mm.) exceeded by the acute external teeth; petals 1.5 X 1 mm., oblong and rounded, granulose; anthers 2.5 mm. long, narrowly oblong, the connective with a basal blunt dorsal appendage 0.2-0.3 mm. long.

C. semijuga vegetatively represents the ultimate in foliar dimorphism among its 4-merous relatives C. dimorphica Macbr., C. gracilis Pittier, C. biolleyana Cogn., and (probably) C. barkleyi Wurdack, sharing with them the general floral features, especially the dorsal stamen connective appendage.

HENRIETTELLA TOBAGENSIS Wurdack, sp. nov.

H. triflorae (Vahl) Tr. affinis, sed cum foliis supra bullato-strigulosis et subtus in venis primariis breviter strigulosis.

Rami teretes primum dense strigulosi demum glabrati. Petioli ca. 1 cm. longi; lamina rigidiuscula 10-20 X 2-5 cm. oblongo-elliptica apice longe (1.5-3.5 cm.) acuminata basi rotundata breviter 5-plinervata nervis duobus interioribus 7-15 mm. supra basim insertis nervis lateralibus ca. 5 mm. inter se distantibus supra obscuris subtus prominulis, supra subtiliter denseque bullato-strigulosa, subtus in venis venulisque dense strigulosa in superficie modice incurvo-setulosa, inconspicue rotundato-denticulata, Flores ignoti; fructi immaturi 4-meri 3-7-fasciculati; pedicelli 1.5-3 mm. longi cum hypanthio densissime longo-strigulosi setulis basi vix inflatis; hypanthium 4-5 mm. longum ad medium constrictum, lobis deltoideis 1-1.2 mm. longis. Ovarium 4-loculare.

Type Collection: R. S. Cowan 1475 (holotype US 2287189), collected in primary forest on Main Ridge, Bloody Bay to roadhead above Roxborough, Parlatuvier-Roxborough Trace, Tobago, alt. 550 m., Apr. 8, 1959. "Tree 4 m. tall. Fruits green. Infrequent".

H. triflora, known from St. Vincent, St. Lucia, and Grenada, has the upper leaf surfaces shortly loose-strigose and not at all bullate; the lower leaf surface primary veins are strigose

with incurved hairs about 2 mm. long. The relationship of the newly described species seems so obvious that the lack of flowering material has not been a handicap.

TOPOBEA CASTANEDAE Wurdack, nom. nov.
T. grandiflora Wurdack, Phytologia 6: 6. 1957, non T. grandiflora Suessenguth, Bot. Jahrb. 72: 278. 1942.

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## THE GENUS PARODIANTHUS

Harold N. Moldenke

This is the twentieth in my series of works of monographic nature on the genera of Verbenaceae. Previous genera so treated are Aegiphila Jacq., Amasonia L. f., Baillonia Bocq., Bouchea Cham., Casselia Nees & Mart., Castelia Cav., Chascanum E. Mey., Citharexylum B. Juss., Cornutia Plum., Petitia Jacq., Petrea Houst., Priva Adans., Recordia Moldenke, Rehdera Moldenke, Rhaphithamnus Miers, Svensonia Moldenke, Tectona L. f., Vitex Tourn. and the New World and cultivated members of Callicarpa L.

Full explanation of the abbreviations employed herein for the names of the 249 herbaria whose material was examined, in whole or in part, in the preparation of these works, will be found in Phytologia 5: 154--159 (1955), 6: 242 (1958), and 7: 91—92 & 123--124. 1960.

PARODIANTHUS Troncoso, Darwiniana 5: 37—39. 1941.

Literature: Moldenke, Phytologia 1: 97. 1934; Junell, Symb. Bot. Upsal. 4: 18. 1934; Moldenke in Fedde, Repert. 39: 47 (1935) and 39: 132, 138—139, 152, & 153. 1936; Hill, Ind. Kew. Suppl. 9: 54. 1938; Moldenke, Geogr. Distrib. Avicenn. 29. 1939; Moldenke, Prelim. Alph. List Invalid Names 14. 1940; Troncoso, Darwiniana 5: 31--40, fig. 1—3. 1941; Moldenke, Lilloa 6: 434 (1941) and 8: 428. 1942; Moldenke, Alph. List Invalid Names 12 & 44. 1942; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 1], 43 & 97. 1942; Moldenke, Lilloa 10: 345. 1944; E. J. Salisb., Ind. Kew. Suppl. 10: 233. 1947; H. N. & A. L. Moldenke, Pl. Life 2: 31 & 75. 1948; Moldenke, Alph. List Cit. 3: 694 & 903 (1949) and 4: 979 & 980. 1949; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 105 & 192. 1949; E. J. Salisb., Ind. Kew. Suppl. 11: 178 & 273. 1953; Moldenke, Résumé 126, 250, 354, 408, & 464. 1959.

Illustrations: Troncoso, Darwiniana 5: 33, 36, & 38, fig. 1—3. 1941.

Branched shrubs; leaves opposite or ternate; inflorescence reduced, axillary, racemiform, few-flowered; flowers medium in size, borne on a fleshy receptacle; pedicels bracteate; receptacle